

Serial No. 10/681,519  
Attorney Docket No. 2001P23807US

### REMARKS

Claims 1-11 have been canceled and claims 12-24 have been added. Thus claims 12-24 are pending in this application. Applicant respectfully requests reconsideration and allowance of the pending claims in view of the discussion below.

#### Response to objections to the specification:

The abstract has been objected to by the Examiner and has been amended to overcome the Examiner's objections. Thus, Applicant respectfully requests that the Examiner withdraw the objection to the specification.

#### Response to rejections under Sections 112:

Applicant has noted Examiner's rejection based upon 35 U.S.C 112. The presently submitted claims address the issues noted by the Examiner.

#### New claims 12-24:

Applicant has reviewed the Examiner's discussion of claims 1-11, and those claims have been canceled. Applicant respectfully submits that new claims 12-24 more clearly define the present invention and are patentable over the prior art. The Applicant requests the Examiner to allow claims 12-24 in light of the discussion below.

#### Claims 12-17 are patentable over Uematsu (6,019,573):

Uematsu describes a first cooling circuit characterized by a first region separated flow wise from a third region by a second region, and a second cooling circuit characterized by a first region separated flow wise from a third region by a second region, wherein the first region of the first cooling circuit is in communication flow wise with a source of relatively-cool live steam during operation, but the first region of the second cooling circuit is in communication flow wise with a source of relatively-hot used steam during operation. Thus, while the first region of the first circuit provides live steam to the second region of the first circuit, the first region of the second circuit provides hotter used steam to the second region of the second circuit. As such, the

second region of the second circuit is cooled at a lower efficiency than the second region of the first circuit.

In contrast, Applicant's claim 12 recites a "a first cooling circuit characterized by a first region separated flow wise from a third region by a second region, ... and a second cooling circuit characterized by a first region separated flow wise from a third region by a second region, ... wherein each first region is in communication flow wise with a source of live steam during operation". Having each first region in a communication flow wise with a source of live steam is not a mere design choice but is effective to provide highly efficient cooling of both circuits by delivering live steam to each of the cooling circuit first regions, thereby maximizing the cooling effectiveness of the circuits. This arrangement is not taught or suggested by Uematsu.

In view of the foregoing remarks of independent claim 12, Applicant respectfully requests allowance of independent claim 12 and claims 13-17, which depend on claim 12.

Claims 18-20 are patentable over Uematsu (6,019,573):

Uematsu describes a first cooling circuit characterized by a first region separated flow wise from a third region by a second region, and wherein the third region of the first circuit acts as the first region of the second circuit. Accordingly, while the first stage blade is cooled by live steam, subsequent blades are cooled by used steam.

In contrast, Applicant's claim 18 recites a "a first cooling circuit characterized by a first region separated flow wise from a third region by a second region, wherein the first region contains live steam during operation, a second cooling circuit characterized by a first region separated flow wise from a third region by a second region, wherein the first region contains live steam during operation, ... a coolant exit in communications flow with at least one of the third regions, wherein the third region of the first circuit communicates flow wise with the third region of the second circuit". In the presently claimed circuits, the blade of the second circuit is cooled by live steam rather than used steam expelled by the third region of the first circuit. This arrangement is neither taught or suggested by the prior art and provides efficiency benefits not found therein.

In view of the foregoing remarks of independent claim 18, Applicant respectfully requests allowance of independent claim 18 and claims 19-20, which depend on claim 18.

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Claims 21-24 are patentable over Uematsu (6,019,573):

Uematsu describes a cooling arrangement in which a first cooling circuit characterized by a first region separated flow wise from a third region by a second region, ... providing a second cooling circuit characterized by a first region separated flow wise from a third region by a second region, ... and providing live steam to first region of the first circuit and used steam to the first region of the second circuit. Thus, while the first region of the first circuit provides live steam to the second region of the first circuit, the first region of the second circuit provides used steam to the second region of the second circuit. As such, the second region of the second circuit is cooled at a lower efficiency than the second region of the first circuit.

In contrast, Applicant's claim 19 recites "providing a first cooling circuit characterized by a first region separated flow wise from a third region by a second region, ... providing a second cooling circuit characterized by a first region separated flow wise from a third region by a second region, ... and providing live steam to each of the first regions". Providing live steam to each of the first regions is not a mere design choice but is effective to maximize cooling efficiency by delivering live steam to each of the cooling circuit first regions. This arrangement is not taught or suggested by Uematsu. As such, the present invention provides efficiency benefits not found in the prior art.

In view of the foregoing remarks of independent claim 21, Applicant respectfully requests allowance of independent claim 21 and claims 22-24, which depend on claim 21.

Claims 12-24 are patentable over Uematsu (6,019,573) in view of Borden (3,572, 966):

As noted above Uematsu discloses a first blade cooled with live steam and a second blade cooled with used steam and also discloses that the third region of the first circuit is the first region of the second circuit. Borden discloses using a radial seal in the first region. Combining the teaching of Uematsu with Borden gives a first blade cooled with live steam, a second blade cooled with used steam and a third region of the first circuit is the first region of the second circuit, wherein the first radial has a radial seal. Such a combination would not teach or suggest either that each first region is in communication flow wise with a source of live steam during operation as claimed by claims 12-17, that each first region contains live steam during operation

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and the third region of the first circuit communicates flow wise with the third region of the second circuit as claimed by claims 18-20, or providing live steam to each of the first regions as claimed by claims 21-24.

In view of the foregoing remarks, Applicant respectfully requests allowance of the pending claims.

#### Conclusion

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, Applicants respectfully request that the Examiner reconsider the rejections and timely pass the application to allowance. Please grant any extensions of time required to enter this paper. The commissioner is hereby authorized to char any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

Dated: \_\_\_\_\_

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